

# Roadsides

An FHWA Quarterly Newsletter for Roadsides Decision-Makers

Spring 2000

This issue is devoted to: Winning Photos and Roadside Programs

## THE 1999 PHOTO OPPORTUNITY WINNERS ARE:

### Category I:

*Planted native species*

First – Missouri

Second – Missouri

Third – Idaho

### Category IV:

Public Awareness

First – Maryland

Second – Missouri

Third – Arkansas

### Category II:

*Planted Non-natives*

First – Maryland

Second – Missouri

### Category V:

Close-ups

First – Missouri

Second – Idaho

Third – Maryland

### Category III:

*Protected Remnants*

First – Maryland

Second – Missouri

### Category VI:

Restoration & Management

First – West Virginia

First – Maryland

Second – Idaho

Third – Missouri

**Category V – Close-ups:** This is easy. When you stop to photograph one of the above categories, remember to zoom in on the details. Both native and nonnative vegetation are allowed here.

**Category VI – Vegetation Management.** Proving that vegetation management includes a wide range of projects and policies, please include examples of woodland regeneration, grassland re-creation, and wetland mitigation. These are the projects whose goals include: improved erosion control, reduced maintenance, increased habitat, and beautification/landscaping. Before and after photos are encouraged. Equipment and personnel demonstrating methods are of interest.

**EDITOR'S CHOICE:** Nebraska for a picture and program I would have voted for.

**HONORABLE MENTION:** Oklahoma for their tireless public awareness efforts.

The seventh annual Photo Opportunity competition ended December 1, 1999. The 78 entries from 8 States were judged in December. Jurors included: Dee Gallo (Information and Management Services), Lori Irving (Public Affairs), Janis Gramatins and Marsha Bayer (Office of Real Estate Services), with Elizabeth Fischer (Office of Human Environment) as Jury Chair.

The rewards for first place winners include: 1. a full page article with winning photo in the spring full-color issue of Greener Roadsides, 2. a congratulatory letter from Administrator Wykle to the Director of the winning State's organization, and 3. A framed sheet of collectable wildflower stamps to be presented by each FHWA Division Office to the winning State Highway Agencies later this spring.

If you would like to be one of next year's winners, please read the categories and tips that follow. The late deadline of November 3, 2000, allows for spring, summer, or fall picture-taking or planning in advance. Some of you, I know, carry cameras with you at all times. Another way is to schedule your DOT official photographer, whom might become another supporter of your program.

**Categories:** In 1999 we imposed a new rule of competition – “plants found on noxious weed lists will no longer be accepted”. One winning photos was disqualified this year because of that rule. Bottom line – we cannot

support the planting of known invasive species. Please submit photographs accordingly. As always, we welcome any suggestions to add interest or fine-tune the competition. This year some side bets were noted behind the scenes between Maryland and Idaho. The results show the increasing challenge as Idaho marked 3 wins and Maryland 5 wins. Good luck in 2000!

**Category I – Planted native plants.** This category is limited to the native wildflowers and grasses known to be native in your area. Consult your State's natural heritage program or Native Plant Society if you need help with identification.

**Category II – Planted non-native/garden wildflowers.** This group spotlights planted wildflowers that are annual or perennial garden flowers introduced into a region in which they are not native. Species like cosmos and day lilies fit here. Avoid known invasive species photos, please.

**Category III – Protected native vegetation.** More and more highway agencies recognize the value of existing natural remnants. Many States sign these sites and manage them differently. This category focuses on the native vegetation characteristic to the regions that roads cross.

**Category IV – Public awareness.** This category has elicited a range of responses from photos of volunteers, workshops, earth day events, to printed educational tools. When pictures do not easily tell the story, consider a packet of material.

### Entry Format

- Submit photos (minimum 4x6, preferably 8x10)
- Send no more than 3 photos per category, or a total of 18 per State.
- Each State may enter any one or all of the six categories.
- Districts, organizations or individuals may enter through their State Highway Agency.
- Provide a brief description on the back of the photo (date, location, goal, and/or names of key plants).
- Submissions are due November 3, 2000.

### Photography Tips

- Plan ahead and take your best shots from various angles.
- Pay attention to the light source and shadows.
- Know the difference between native and nonnative when choosing categories.
- Type your cover letter and back-of-photo information to assure legibility.
- Read category descriptions before choosing where your photo fits.
- Except for close-ups, a road reference is desirable.
- Plants known to be invasive species will not be accepted.

## NEBRASKA'S WILDFLOWERS

### GROWING FROM A PRAIRIE HERITAGE

Art Thompson

#### Nebraska Department of Roads

Nebraska's roadside reestablishment program has been building since the early 1960's when we broke away from the brome grass traditions and utilized native grasses and legumes to stabilize our roadsides. To accomplish this, the seed producers had to increase their production, improve the germination rates, and certify new named varieties of native selections. By 1974, we began to incorporate wildflowers in our seed mixes in an attempt to reintroduce the diversity and native ecology of our prairie heritage. As a part of this heritage, wildflowers and native grasses are used to recreate the look and feel of Nebraska's native prairie on the roadside.

Our roadside program, which could be termed Integrated Roadside Vegetation Management, begins with careful planning. By selecting varieties, native and hardy to the area for erosion control, we are ensured that the seed will have an excellent chance of establishing. With over 10,000 miles of highways and 153,000 plus acres of right-of-way, roadside native vegetation benefits the state through the promotion of wildlife habitat, reduction of maintenance requirements, stabilization of soil, and protection of an emergency hay bank during times of drought.

Following all road construction, the roadsides are seeded with native grasses, as well as, native and introduced wildflowers. With the quantity of right-of-way we maintain and ever increasing maintenance costs, it is vital to create a landscape that will become as low maintenance as possible and enhance the adjacent landscape.

We have two classifications of seed mixes, which are used throughout Nebraska to re-establish our roadsides.

- The first mix is used adjacent to the paved surfaces and consists of shorter grass varieties, which are tolerant of deicing chemicals and regular mowing. These grasses are generally kept mown to a height of five inches and mowed out fifteen feet from the paved shoulder. If they are allowed to reach their mature height of twelve to eighteen inches, it generally does not create a safety concern.
- The second mix, which is utilized throughout the remainder of the right-of-way, consists of taller varieties of grasses and contains the majority of the forbs and wildflowers. After

seeding, this area is mown up to three times a year for two years to control the growth of weedy species until the native plants are established. Upon completion of the establishment period, a limited mowing policy is implemented. Under this policy, a portion of the right-of-way is typically mowed once every five years in an effort to simulate the natural burns that would occur on the prairie. This mowing aids in reducing the litter and recycling nutrients back into the soil. Only one side of the roadway is mowed in a given year in an effort to maintain wildlife habitat in that area. Along with the environmental benefits of our reduced mowing, the requirements for grass care by our maintenance crews are drastically reduced, saving money and increasing the availability of manpower for other duties.

Site-specific seed mixes: The seed mixes, within these two classifications, are designed based upon the local soil, topography, and climate conditions of the project. The success of our seeding program is hinged upon the knowledge of these local conditions, careful planning, and quality installation.

To help ensure this quality, we have adopted the following measures:

- Cover crop seeding and erosion control materials are used to maintain the finish grade of a project until the permanent seeding can be installed and established.
- We require the contractor to use the best method of seeding for the establishment of the grasses and wildflowers on each project. Drilling is our preferred method, but only if it can be safely accomplished by the contractor. Broadcasting and hydroseeding can also be used with appropriate alterations in the seeding requirements.
- The seed must be a certified named variety and come from approved sources.
- The roadsides are fertilized at the time of seeding to ensure that essential nutrients get



**Editor's Choice:** a close-up of an attractive wetland native, Blue Flag, *Iris virginica*.

to the plantings in this very disturbed soil.

- All of the projects are mulched after seeding, with the mulch being crimped into the soil to resist wind.
- Native hay or straw is used for mulch with the new seeding. This mulch must be certified noxious weed free before it is accepted for use on a project. Some projects are restricted to native hay to reduce competition from the grain in the straw.

While preference is given to native wildflowers, not all of Nebraska's wildflowers are native. Some introduced variety's ability to adapt and flourish with the local conditions on a given site cannot be overlooked. This combination of native and non-native wildflowers provides changing color and interest along the roadway throughout the year. Whether it is their burst of color the spring after a project is completed or the seasonal changes in texture and color associated with an established roadside, wildflowers have become an integral part of our seeding program. Through careful planning and quality installation, we are ensured that wildflowers will flourish on our roadsides for generations to come.

# NATURAL MISSOURI... FROM THE ROAD

*Carol Davit, Missouri Department of Conservation (excerpted from the Missouri Conservationist, Volume 59, Number 8, August 1998)*

Even when glimpsed at highway speeds, native plants offer a sense of place.

"To the right, the Missouri is concealed by a wood of no great width, extending to the Mississippi, a distance of ten miles. Before me I could mark the course of the latter river, its banks without even a fringe of wood... To the left, we behold the ocean of prairie, with islets at intervals. The whole extent perfectly level, covered with long, waving grass, and at every moment changing color from the shadows cast by the passing clouds. In some places, there stands a solitary tree, or cottonwood or walnut, of enormous size, but, from the distance, diminished to a shrub. A hundred thousand acres of the finest land are under the eye at once..."

— Henry Marie Brackenridge, 1814, describing a bottomland prairie in St. Charles County

When Henry Marie Brackenridge made observations about our state's vegetation, he was traveling by flatboat through Missouri on an expedition for the Missouri Fur Company. Like other early explorers and Native Americans, Brackenridge's 19th-century mode of travel made him acutely aware of his surroundings. Notwithstanding the hardships of 19th century travel — convenience stores were non-existent — Brackenridge's transportation method allowed him to see the presettlement landscape unfold around him and to observe the original vegetation of our state at close range.

Today, most of what we see of Missouri is from the roadside; we aren't forging new routes like the Osage tribe or Daniel Boone on horseback or Lewis and Clark in a canoe or keelboat. Riding along roads in our cars, utility vehicles and pickups, we move safely and quickly from point A to point B. But we pay a price for comfort and speed: traditional roadside flora — usually involving plants not from Missouri — remains essentially the same across the state, even though the

landscape changes. Without the clues of native vegetation along the road, it's easy to lose our sense of place.

In the last two centuries, we have lost much of our original vegetation. Land in some natural divisions, like the Mississippi Lowlands and the Osage Plains, was converted for crop fields, pastures and other human uses. Most of the Ozarks were cut over for timber products, and many floodplains and other wetlands were altered or drained. Little original vegetation has survived the plow or bulldozer, and only pockets of it remain along our roadsides.

Preserving Missouri's remaining native vegetation and reintroducing plants native to natural communities along rights-of-way provide measurable financial and ecological benefits. The aesthetic benefits are immeasurable, but are no less important. When I'm traveling down the road and



**Category I:** a native mix of poppy mallow, butterfly weed, and coreopsis, Route 60.



**Category V** — first place: Purple beard-tongue brightens Highway 54 in June.

see glade plants in the Ozarks, or tall grasses in the Glaciated Plains prairies or water canna in the Bootheel, I can appreciate the natural patchwork of Missouri at close range, as Brackenridge did nearly 200 years ago.

for complete article:

<http://www.conservation.state.mo.us/conmag/1998/08/6.html>

## MARYLAND'S OFFICE OF ENVIRONMENTAL DESIGN

### *Ken Oldham, Environmental Manager*

**T**he role of the Office of Environmental Design is to support the Maryland State Highway Administration's mission in the areas of environmental mitigation, landscape development and roadside management. Major environmental programs include wetland mitigation, stream restoration, reforestation and noise abatement. Landscape development programs include the design and construction of a variety of landscape projects ranging from establishing wildflowers to planting urban streetscapes. We have recently initiated an

expanded emphasis on *context sensitive design* in our highway design process. This initiative is part of our *Thinking Beyond the Pavement* approach where input from communities and a complete range of stakeholders is sought early in the design process. In this way we address community and environmental needs and provide for the transportation needs of the corridor. The results have been roadway improvements that were designed right the first time, and which are welcomed by communities. Our Partnership Planting Program is a public outreach program that also works with communities to

make landscape improvements to highways. Civic groups and municipalities can plantings in their communities by volunteering their services or by contributing funds.

Our roadside management program includes the management of trees, control of weeds and the management of turf areas. We continue to develop programs that encourage the development of rural roadsides like those illustrated in the photographs. We are taking a fresh look at our roadside program to see how we can do better. Our experience has shown that



**Category II** – Planted garden wildflowers showing off throughout the summer on US 50/301.



**Category IV** – A partnership planting in progress on MD 170, Anne Arundel County.

ural look is not for every area. Customers in more urban and suburban regions respect more highly managed landscapes. The wide expanses of interstate highways provide the greatest opportunities for natural landscapes.

Natural landscapes in Maryland mean trees. Trees are king here, so we plant them at every opportunity. Not only do we plant trees, but we also create conditions that encourage the natural succession of native trees on their own. The phasing out of crownvetch from our standard slope mix has gone a long way toward encouraging the regeneration of roadside forests.

That is not to say that native meadows do not have a place; they do. We are currently re-evaluating how we manage meadows. We are finding that meadows do not happen by themselves. There is too much competition from introduced and invasive species and many of the desirable native species do not come in on their own. As a result, we are evaluating new methods of establishing and managing native meadows. It is too early for results but we continue to expand our efforts. We are beginning to use species of native wildflowers and grasses of Maryland previously not used.

We are also placing greater emphasis on the

control of exotic species that have invaded the roadside. In our management practices, we are placing greater emphasis on the control of the real “bad guys” such as Canada Thistle, Pragmites, and Ailanthus. We are also incorporating the control of introduced and inva-

sive species into our landscaping and reforestation projects. The success or failure of these projects will depend on how well competitive species are controlled. If you are interested in more detail on our programs, please do not hesitate to contact us.

I would like to thank the editor of *Greener Roadsides*, Ms. Bonnie Harper-Lore, for her outstanding contribution toward the better management of roadsides throughout the country. FHWA's Photo Opportunity Contest is just one of the many creative ways used to promote good roadside management and development practices. I would also like to thank all the DOT's for their contribution toward making this competition such a success. Keep participating. Finally, I want to give the credit to our prize photographer, Amy Schmand. Amy took the lead on the photo contest and contributed many of the award-winning photographs. Without her, we would not have participated in the competition. Credit also goes to Bruce Knott and Leroy Jonas for their outstanding photographic contributions. Thanks to all. □



**Category III** – Reduced mowing protects this native vegetation remnant on I-195.



# ROADSIDE PROGRAMS ENCOURAGE COMMUNITY PRIDE

## Laurie Stillings

### Oklahoma's Beautification Program

**Wildflower Workshop:** Oklahomans are enjoying a lengthy love affair with their native wildflowers. Evidence of this interest is shown by their attendance at the popular Wildflower Workshop. Every year the 2-day workshop is held in a different part of the State. This May the workshop will see its 23rd anniversary in Tahlequah, land of the Cookson hills, sparkling streams and rich heritage of the Cherokee Nation. The workshop is co-sponsored by the Oklahoma Department of Transportation (OKDOT), Oklahoma Garden Clubs, Inc., and the Oklahoma Native Plant Society. It features a seminar on Friday with noted speakers on native plant subjects and a field trip on Saturday to local wildflower areas.

**Wildflower Program:** OKDOT has years of experience with public outreach. Along with the workshop, OKDOT offers its longstanding Roadside Wildflower Program. Although started at the same time as the Wildflower Workshop in 1976, the program underwent a hiatus due to lack of commercial seed source, planting equipment and know how. In 1988 the program was reactivated under the management of the OKDOT Beautification Office. It was intended to be an inexpensive way to landscape Oklahoma's highway since OKDOT had no landscaping budget. Individuals, communities, civic groups, garden clubs and others donate seed, or money for seed and OKDOT uses its equipment and personnel to plant on highway right-of-way (row). During the last twelve years OKDOT has planted over 1600 acres in 777 locations Statewide. OKDOT used approximately \$80,000 of ISTEA enhancement funds on a recent project to plant native wildflowers along the newly designated "Prairie Passage", a national wildflower highway extending from Texas to Minnesota.

**Tree Grant Program:** This popular, rule-changing program has just been funded by the Transportation Commission for another three years. The OKDOT Highway Tree Grant Program allows communities to use in-kind services to provide their 25 percent match and to use a less restrictive bid process. The Oklahoma Agriculture Department's Forestry Division is under contract to assist with record keeping and field inspections. A grant preparation workshop is offered before each round of applications are due. Highway landscape design as well



**Honorable Mention** – a future highway-user enjoying purple coneflowers during an Oklahoma annual Wildflower work-shop field trip.

as the importance of using appropriate species (mostly native) are emphasized. An installation and maintenance workshop is a requirement for all grant winners. Using ISTEA enhancement funds, fifty-one communities have planted a total of 3,881 trees and 4,636 shrubs in the last three years. The \$1.5 million of new TEA 21 funding will allow the program to continue and to offer up to \$27,000 for each grant. AND the funds are not part of the Statewide competition for enhancement funds.

**Adopt-A-Highway Program:** In another aspect of roadside beautification, OKDOT annually spends \$4 million picking up litter. That alone would be a good reason for educating the public about litter. However, the Department also believes in community involvement and partnerships. This is demonstrated by OKDOT's partnerships with other agencies and groups like State Garden Clubs, the Cherokee Nation, and more. The Adopt-A-Highway (AAH) program partners with churches, civic clubs, scouts, extension homemakers, motorcycle clubs, store employees, bankers, firemen, and college students.

**Media Campaign:** Within the Adopt-A-Highway program, "Oklahoma – Keep Our Land Grand", an anti-litter media campaign begun in 1997.

The campaign title refers to a line in the State song, *Oklahoma*. Television commercials use the well-known song as background music. A unique feature of the campaign is the use of federal enhancement funds for part of the financing. The \$1 million funding for the first year's operation was split 80-20 federal to State. The campaign encourages State pride by reminding Oklahomans of Oklahoma's natural beauty, and cultural heritage.

**Public Awareness:** In 1992, a Trash poster contest for all Oklahoma school children was established. Corporate sponsors supply \$2000 in State level prizes for 12 top winners. More than 14,000 entries are received in this popular contest in which students, K-12, learn about litter and solid waste. OKDOT produces one of the winning State posters for distribution. OKDOT partners with representatives from the State Department of Environmental Quality, and Education, Keep Oklahoma Beautiful, Inc., and the Cherokee Nation. The partners host an award luncheon, distribute contest supplies and information. Each year 34,000 copies of a calendar depicting the 12 State winners are printed and distributed free to schools, county commissioners, chambers of commerce, etc. □

## RESTORATION & MANAGEMENT SAND RUN WETLAND

*Carol Melling*

### *West Virginia Division of Highways*

Although many areas are not visible to motorists on the completed highways for which they mitigate, West Virginia's wetlands have been created and landscaped to duplicate or enhance the environment displaced by construction.

In addition to achieving the desired results of providing habitat for waterfowl including mallards, geese and herons, amphibians of all types and animals from racoons to deer, the wetlands have provided unexpected bonuses.

Wood duck boxes installed at one location, a cooperative effort between Ducks Unlimited and the State Divisions of Highways and Natural Resources, continue to attract the small waterfowl. Another wetland, which incorporated an old pond, now yields largemouth bass. The limestone of a rock fill sediment structure of another now appears to be providing a nursery for hundreds of Norway spruce seedlings. In addition, a smaller wetland, created through migrating plant species deposited by the sediment structure, provides additional filtration for some 40 areas of highway runoff and for acidic material from area coal formations. Still another wetland once prevented untold damages to the town where it is located by impounding millions of gallons of floodwaters from a nearby river.

Built to impound three levels of water - open water, emergent areas and upland islands, the wetlands were first planted with mixed grasses to attract wildlife that would bring in other seeds.

After a period of monitoring both water levels and plants (including "volunteer" species), landscaping contracts called for additional trees, shrubs and herbaceous plants to provide diverse vegetation native to the area. Among the herbaceous plants were arrowhead, fowl manna grass and rice cutgrass. Included in the shrubs were paw paw, buttonbush, hazelnut, black elderberry and milky dogwood, while trees included sycamore, swamp white oak, pin oak, black gum, hemlock and serviceberry.

In the case of the award-winning Sand Run wetland, contract landscaping was not the final step in determining the area's appearance. According to West Virginia Division of Highways



**Category VI** - before wetland mitigation on US 33, Corridor H in West Virginia.



**Category VI** - after a planting of a diverse list of native grasses, forbs, shrubs and trees to survive open water, emergent wetland zones as well as islands.

biologists, beavers that began to occupy the wetland "did not like the level as designed and added to Highways' layout by recontouring the

wetland to THEIR specifications," changing water levels and thereby providing additional enhancement. □

## PROPOSAL DEADLINES:

### **TERP - Transportation Environmental Research Program**

[www.fhwa.dot.gov/terp](http://www.fhwa.dot.gov/terp)

\$20-50,000 awards for fit to 2 year work plans. Focused, local investigations that are based on small scale research. Proposals accepted throughout year with awards made when funds available. Some 18 topics including: vegetation management, water quality, wetlands, ecosystems, cultural resources, etc. TERP manager @410.492.2362.

### **SBIR - Small Business Innovations Research Program**

[www.volpe.dot.gov/sbir](http://www.volpe.dot.gov/sbir)

R&D projects funded at small companies. SBIR 2000 program solicitations are due on May 1, 2000. This years topics include 00-FH12 "Development of technology to increase native seed sources"

### **Transportation Enhancement (TEA-21)**

[www.enhancements.org](http://www.enhancements.org)

Funding. Each State program is different and applying for TE funds is competitive. Eligible projects include: landscaping and beautification, historic preservation, highway runoff mitigation, wildlife under-crossings, and more. For more information call 202.366.0106.

### **INVASIVE SPECIES RFP:**

Proposals that involve research, education, and outreach aimed at invasive species prevention/control and restoration of natives are solicited by USDA's John J. Obrycki at (202) 401-1108. Favored proposals are those from partnerships of multiple States, disciplines, or institutions.

### **NATIVE PLANT/HABITAT RFP:**

Proposals aimed at native plant preservation and restoration, as well as on-the-ground ecosystem approaches, are welcome. Multi-partner and multi-agency involvement encouraged. A number of grants available over the year from the National Fish and Wildlife Foundation ([www.nfwf.org](http://www.nfwf.org)). Call Gary Kania, (202) 857-0166 for information.

## **Make Plans Now!**

The mid-year meeting of the Landscape and Environmental Design Committee - Committee A2A05 of the Transportation Research Board w July 30 to August 2 in Oklahoma City, Oklahoma. The meeting will be held at the Westin Hotel. Make plans and reservations early to take advantage of prices. For information, contact Laurie Stillings (405) 521-4037.

*Greener Roadsides* is a quarterly publication of the Federal Highway Administration, Office of Natural Environment. If you would like to submit letters, comments, or articles, please address them to:

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